

REMARKS

Reconsideration of the present application, as amended, is respectfully requested.

Turning to the Office Action, Applicant appreciates the Examiner's clarification of the record in paragraphs 1 and 2 of the Office Action. Applicant also appreciates the Examiner including the initialed copy of the PTO 1449 for the March 18, 2003 Information Disclosure Statement.

In response to the objection given in paragraph 3 of the Office Action, dependent Claim 10 has been amended to correct the typographical error by deleting the additional words appearing after the claim sentence ends.

Turning to the rejections presented in the Office Action, the Examiner maintains the rejections of Claims 1-7, 16 and 18-23 under 35 U.S.C. 102(b) as anticipated by WO 97/40454 (Dimitrova).

(Office Action, ¶5) Claims 1-4, 9-13 and 18-23 are newly rejected under 35 U.S.C. 102(b) as anticipated by the article "Media-based Navigation With Generic Links" by Lewis, et al. (Lewis). (Office Action, ¶6) Claim 8 is again rejected under 35 U.S.C. 103(a) as unpatentable over Dimitrova in view of the article "The Role Of Analysis In Content-Based Video Coding And Indexing" by Correia et

al. (Office Action, ¶8) Claims 14 and 15 are again rejected under 35 U.S.C. 103(a) as unpatentable over Dimitrova in view of the article "Pictorial Transcripts: Multimedia Processing Applied to Digital Library Creation" by Shahraray et al. (Office Action, ¶9) Claim 17 is again rejected under 35 U.S.C. 103(a) as unpatentable over Dimitrova in view of Applicant's purported conceded prior art. (Office Action, ¶10)

Focusing first on paragraph 11 of the Office Action, the Examiner responds to arguments presented in the prior Amendment to distinguish Claims 1-8 and 14-23 from Dimitrova. In particular, the Examiner maintains that the recitation "particular feature" does not preclude the technique utilized in extracting the particular feature. The Examiner maintains that the "window pair" signatures of Dimitrova teach the Claim 1 recitation of a "particular feature".

Upon further consideration, Applicant concurs that the "window pair" signature extracted via the technique described in Dimitrova provides a "particular feature" of the video clip and is thus encompassed by the "particular feature" recited in Claims 1-23. For example, Dimitrova's signature technique is one way of representing a visual appearance of a video segment. In fact, the prior Amendment itself acknowledges that similarities between video

clips are provided by comparing signatures in Dimitrova, and it is furthermore noted that the U.S. Patent corresponding to Dimitrova is also cited at page 8 of the application as an exemplary technique for extracting visual similarity.

Thus, Applicant withdraws the argument presented in the prior amendment that similarities between video frames in Dimitrova are not based upon a "particular feature". The Examiner's explanation is appreciated and any inconvenience created is regretted.<sup>1</sup>

However, although Dimitrova's techniques may be used for extracting visual appearance from a video segment, the use of those signatures by Dimitrova to determine similarities between video sequences does not teach the Claim 1 recitation of "determining an association". Dimitrova describes storing signatures of video clips in a database. A signature of a query video clip is then extracted and scored with respect to the signatures of the video clips stored in the database. Stored video clips having signatures

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<sup>1</sup> In addition, further consideration has been given to the clause "the association based upon the feature" introduced in Claims 1 and 18-20 in the prior Amendment. The clause merely recited that the association was "based upon" the particular feature. As such, it was unnecessary and not directed at the distinction previously argued, namely, that Dimitrova did not teach a "particular feature". (This argument has also now been withdrawn, as noted above.) The clause is also not necessary to the distinguishing arguments presented in the current Amendment. In view of the above, and to avoid any potential issues of estoppel in the future (such as under Festo), Claims 1 and 18-20 have been restored to their original wording by deleting the above-noted clause.

with scores closest to the signature of the query video clip are presented to the user. (See, e.g., Dimitrova, p. 4 (lines 22-32), Fig. 2 and corresponding text at pp 7-9; p. 11, lines 8-15; p. 18, lines 9-20)

The above-noted aspects of Dimitrova are basically acknowledged in the Office Action: The Office Action acknowledges that the signature of the query video clip is compared with signatures stored in a database. (Office Action, ¶11(a), paragraph spanning pages 8-9)

However, the Office Action is incorrect (in paragraphs 5a and 11) in identifying the comparison of the signatures of Dimitrova as "determining an association" as recited in Claim 1. Such direct scoring correspondence between the signature of a query video clip and a signature of a video clip stored in the database of Dimitrova is not a determination of an association, as recited in Claim 1. An association as recited in Claim 1 generally involves previously configured intermediate information that is subsequently used to relate a feature in the video segment with the additional information source. (See, e.g., specification, p. 6 (line 18) to p. 7 (line 9))

An exemplary embodiment of an association is described in the specification with respect to Figs. 4 and 6. For example, Fig. 4

describes the creation of one or more associations which indicate the frames of multiple video segments in which a particular video feature appears. The associations are stored in an index of associations. (Specification, p. 13, lines 3-10) Fig. 6 then provides an exemplary description of how the exemplary index of associations may subsequently be used. When an object in a video segment being viewed is activated, the association for that object is looked up in the index. A video segment indicated in the association for the activated object may then be displayed. (Specification, p. 14 (line 12) to p. 15 (line 3))

Creation of associations may be based upon a scoring correspondence. For example, the signatures determined according to the techniques described in Dimitrova could be used to establish associations, as noted at page 8 of the specification. However, because Dimitrova compares those signatures directly and thereby contains no intermediate relational information, Dimitrova fails to teach "determining an association" as recited in Claim 1.

Accordingly, for at least the above noted reasons, independent Claim 1 is not anticipated by Dimitrova. Independent Claims 18-23 may be distinguished from Dimitrova at least for analogous reasons. As noted above, dependent Claims 2-7 and 16 were rejected as anticipated by Dimitrova, and dependent Claims 8, 14, 15 and 17

were rejected as obvious over Dimitrova in combination with additional citations. Without conceding the patentability per se of dependent Claims 2-8 and 14-17, it is submitted that they are likewise distinguished at least by virtue of their dependencies on independent Claim 1.

As noted above, Claims 1-4, 9-13 and 18-23 were rejected in paragraph 6 of the Office Action as anticipated by Lewis. The material cited in the Office Action on page 217 of Lewis (p. 217, right col., lines 25-52) summarizes extending the text based generic link of the Microcosm architecture to generic links based on other selections in the MAVIS project. In implementation of this extension, Lewis describes a user making selections in images, signatures being created for the selections by signature modules, and storage of the signatures in a link database. (See, e.g., Lewis Fig. 2 and corresponding text "Authoring Links" at pp. 220-221). In subsequent generic link following of a video being viewed, the user makes a selection in a video frame. A signature is created for the selection, compared with the signatures in the database, and a list of closest matching signatures is presented to the user. Lewis refers to index terms being created for the signatures; however, these are simply abbreviated versions of the signatures which are first compared in order to reduce the number

of full signatures that are compared. (See, e.g., Lewis Fig. 3 and corresponding text "Link Following" at pp. 221-222<sup>2</sup>)

Thus, like Dimitrova, Lewis's direct matching between the signature of a selection and the signatures in the link database fails to teach "determining an association" as recited in Claim 1. Independent Claim 1 and, by analogous reasoning, independent Claims 18-23 are distinguished from Lewis for at least these reasons.

As noted above, dependent Claims 2-4 and 9-13 were rejected as anticipated by Lewis. Without conceding the patentability per se of dependent Claims 2-4 and 9-13, it is submitted that they are likewise distinguished at least by virtue of their dependencies on independent Claim 1.

Finally, new independent claims 24 and 25 have been introduced above. New Claims 24 and 25 have analogous recitations relating to an "association" and may likewise be distinguished at least from the direct comparison of signatures in Dimitrova and Lewis.

Thus, in view of the above remarks, it is submitted that all of the pending claims in the Application, namely Claims 1-25, are in shape for allowance. Accordingly, allowance is respectfully

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<sup>2</sup> Applicant notes that Figs. 2-4 of its file copy of Lewis are difficult to view. Should the Examiner's copy of Lewis likewise have figures that are difficult to view, it is noted that the figures may be viewed at: <http://eprints.ecs.soton.ac.uk/archive/00000797/05/html/>

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requested. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant's attorney at the number given below.

Respectfully submitted,

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